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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,723	02/12/2004	Dwip N. Banerjee	AUS920031052US1	8226
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IBM CORPORATION (WMA) C/O WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			EXAMINER HOANG, THAI D	
			ART UNIT 2616	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/777,723

Applicant(s)

BANERJEE ET AL.

Examiner

Thai D. Hoang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Application filed on 2/12/2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-12-17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 6 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/12/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5 and 12, recited, *“determining if packet reordering occurred prior to receiving the data packet, and wherein delaying the transmission of the acknowledgement comprises delaying the transmission of the acknowledgment in response to determining that packet reordering had occurred prior to receiving the data packet”* is unclear why *“reordering”* occurred prior to *“receiving”* the data packet.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 8-12 are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. Claim 8 recited *“An article comprising one or more machine-readable storage media containing instructions”*, which is functional descriptive material (e.g. computer program per se). Functional descriptive material is nonstatutory when claimed as descriptive material per se. Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer readable

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medium it becomes structurally and functionally interrelated to the medium and will be statutory. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ 2d 1031, 1035 (Fed. Cir. 1994).

Therefore, in order to overcome the rejection, the preamble of claims 8-12 should be changed to -- A computer-readable medium encoded with computer executable instructions thereon--

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 7-12, 14-17 and 19-20 are rejected under 35 U.S.C. 102(e) as being unpatentable by Abrol et al, US Patent No. 7,061,913 B1, hereinafter referred to as Abrol.

Regarding claims 1 and 8, Abrol discloses a method and apparatus for delayed frame detection in third generation radio link protocol. The method comprising:

receiving a data packet (fig. 5, step 502);

determining if the data packet is received out of order (fig. 5, step 504); and

delaying transmission of an acknowledgement indicating that a data packet is missing in response to determining that the data packet is received out of order

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(withholding the transmission of a NAK message for delayed RLP frame until the delayed RLP frame has been missing longer than a predefined time, col. 5, lines 65-67, col. 6, lines 7-10).

Regarding claims 2, 9 and 15, Abrol discloses the method comprises the steps of:

determining that the acknowledgement should be transmitted if the data packet is received out of order (received sequence number is greater than or less than $L_V(R)$, fig. 5, step 504 and 514); and

waiting a preselected amount of time in response to determining that the acknowledgment should be transmitted (withholding the transmission of a NAK message for delayed RLP frame until the delayed RLP frame has been missing longer than a predefined time, col. 5, lines 65-67, col. 6, lines 7-10.)

Regarding claims 3, 10 and 16, Abrol discloses the method comprises the steps of: determining if the missing data packet is received within the preselected amount of time; and transmitting the acknowledgment in response to determining that the missing data packet is not received within the preselected amount of time (col. 5, line 61- col. 6, line 10: detecting delayed RLP frames, and preventing the transmission of unnecessary NAK messages and data frame retransmissions until the delayed RLP frame has been missing longer than a predefined time.)

Regarding claims 4, 11 and 17, Abrol discloses the method comprises the steps of: determining a sequence number of a next expected data packet (expect sequence

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number $V(R)$); and determining if the sequence number of the received data packet is greater than the sequence number of the next expected data packet (fig. 5, step 504).

Regarding claims 5 and 12, as best understood, Abrol discloses the method comprises the step of: delaying the transmission of the acknowledgement comprises delaying the transmission of the acknowledgment in response to detecting the received sequence numbers do not have consecutive sequence numbers (withholding the transmission of a NAK message for delayed RLP frame until the delayed RLP frame has been missing longer than a predefined time, col. 5, lines 65-67, col. 6, lines 7-10.)

Regarding claims 7 and 19, Abrol discloses a network using at least the Transmission Control Protocol (col. 1, lines 48-54), and wherein delaying the transmission comprises delaying the transmission of a duplicate ACK (withholding the transmission of a NAK message for delayed RLP frame until the delayed RLP frame has been missing longer than a predefined time, col. 5, lines 65-67, col. 6, lines 7-10.)

Regarding claim 14, Abrol discloses the apparatus comprises:

an interface (fig. 7, demodulator 702);

a control unit communicatively coupled to the interface (fig. 7, control processor 704 coupled to demodulator 702). The control unit adapted to:

receiving a data packet over the interface (the received data is converted to digital RLP frames by data demodulator element 702, and the data frames pass to control processor 704, col. 13, line 65-col 14, line 2);

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determining if the data packet is received out of order (control processor 704 performs delayed/missing frame detection based on received sequence numbers, col. 14, line 3, fig. 5, step 504); and

delaying transmission of an acknowledgement indicating that a data packet is missing in response to determining that the data packet is received out of order (withholding the transmission of a NAK message for delayed RLP frame until the delayed RLP frame has been missing longer than a predefined time, col. 5, lines 65-67, col. 6, lines 7-10).

Regarding claim 20, since Abrol discloses the apparatus adapts with TCP protocol, and because TCP requires that a data packet be acknowledged within a specified amount of time or the sender of that data packet must assume that the data was lost and needs to resend that data packet; therefore, Abrol's apparatus inherently comprises a timer in associated with a operating system to control the preselected amount of time for determining time expiration

Allowable Subject Matter

Claims 6 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chapman et al., US PAT No. 6,493,316 B1, "Apparatus for and method of managing bandwidth for a packet based connection."

Su et al., US PAT No. 7,239,610 B2, "Methods and devices for partial upper layer frame loss detection based retransmission."

Meylan et al., US PG-PUB No. 2004/0095964 A1, "Use of idle frames for early transmission of negative acknowledgement of frame receipt."

Earnshaw et al., US PAT No. 7,058,085 B2, "Method and apparatus for transmitting data over a network within a specified time limit."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D. Hoang whose telephone number is (571) 272-3184. The examiner can normally be reached on Monday-Friday 10:00am-6:30pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T.H./


CHI PHAM
SUPERVISORY PATENT EXAMINER 7/23/07